

### **DETAILED ACTION**

This action is in response to the amendment filed on 7/25/11. Currently, claims 2-19 and 21 are pending in the application. Claims 1 and 20 were cancelled by Applicant. No amendments were made to the claims.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 3, 4, 8, 10, 14 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims were amended to recite the "substantial" shape and direction of device structures. No support has been provided in the specification for these claim limitations.

#### ***Claim Rejections - 35 USC § 102***

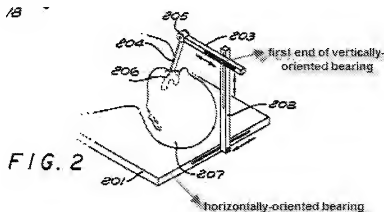
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2, 5-7, 9 and 11-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Cosman (US 5,947,981).

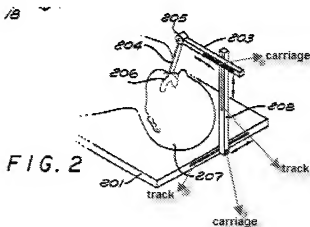
In regards to claim 2, Cosman teaches in Figure 2 and column 3, lines 37-47 a frame (203, 204, 205); a projection (206) extending from one end of the frame (203, 204, 205), the projection (206) defining a pivot point; a first assembly connectable to a second end of the frame (203, 204, 205), the first assembly including a vertically-oriented bearing (202) having a first end and a second end, the first end extending through an opening in the frame (203, 204, 205), the second end of the frame (203, 204, 205) configured to move along the vertically-oriented bearing (202) to provide a first range of motion of the frame (203, 204, 205) relative to the couch (201) about the pivot point; and a second assembly including a horizontally-oriented bearing, the second end of the vertically-oriented bearing (202) configured to move along the horizontally-oriented bearing to provide a second range of motion of the frame (203, 204, 205) relative to the couch (201) about the pivot point.



In regards to claim 5, Cosman teaches the apparatus of claim 2. Cosman teaches in Figure 2 and column 3, lines 37-47 that the first range of motion comprises one of a pitch rotation, a roll rotation, and a yaw rotation and the second range of motion comprises one of a pitch rotation, a roll rotation, and a yaw rotation.

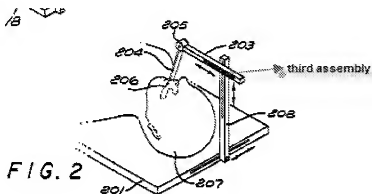
In regards to claim 6, Cosman teaches the apparatus of claim 2. Cosman teaches in Figure 2 and column 3, lines 37-47 that the first range of motion is different than the second range of motion.

In regards to claim 7, Cosman teaches the apparatus of claim 2. Cosman teaches in Figure 2 and column 3, lines 37-47 that the first assembly comprises a track and a carriage connected to the frame (203, 204, 205), the carriage adapted to move along the track (see annotated copy of Figure 2 below).



In regards to claim 9, Cosman teaches the apparatus of claim 2. Cosman teaches in Figure 2 and column 3, lines 37-47 that the second assembly comprises a track and a carriage adapted to move along the track (see annotated copy of Figure 2 above).

In regards to claim 11, Cosman teaches the apparatus of claim 2. Cosman teaches in Figure 2 and column 3, lines 37-47 a third assembly connectable to the second end of the frame (203, 204, 205), the third assembly operable to provide a third range of motion of the frame (203, 204, 205) relative to the couch (201) about the pivot point.



In regards to claim 12, Cosman teaches the apparatus of claims 2 and 11. Cosman teaches in Figure 2 and column 3, lines 37-47 that the third range of motion comprises one of a pitch rotation, a roll rotation, and a yaw rotation.

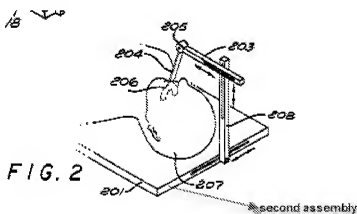
In regards to claim 13, Cosman teaches the apparatus of claims 2 and 11. Cosman teaches in Figure 2 and column 3, lines 37-47 that the third range of motion is different than the first range of motion.

In regards to claim 14, Cosman teaches the apparatus of claims 2 and 11. Cosman teaches in Figure 2 and column 3, lines 37-47 the second assembly comprises a track and a carriage adapted to move in a substantially horizontal direction along the track, and wherein the third assembly comprises a shaft (203) having a first end connectable to (the shaft is integral with and therefore, is connectable to the frame) the

frame (203, 204, 205) and a second end connectable to carriage the second assembly (via vertically-oriented bearing 202), the second end of the shaft (203) adapted to be pivotable with respect to the carriage of the second assembly.

In regards to claim 15, Cosman teaches the apparatus of claims 2, 11 and 14. Cosman teaches in Figure 2 and column 3, lines 37-47 that the third assembly provides roll movement of the frame (203, 204, 205) relative to the couch (201) as the second end of the shaft (203) pivots with respect to the carriage of the second assembly.

In regards to claim 16, Cosman teaches in Figure 2 and column 3, lines 37-47 a frame (203, 204, 205) adapted to support a body part, the frame (203, 204, 205) having a first axis; a first assembly (202) adapted to move the body part about the first axis; a second assembly adapted to move the body part about a second axis oriented perpendicular with respect to the first axis; and a third assembly (203) adapted to move the body part about a third axis oriented perpendicular with respect to the first axis and the second axis.

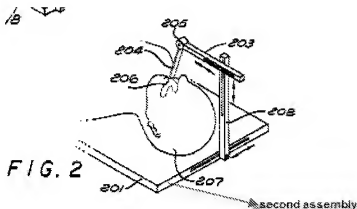


In regards to claim 17, Cosman teaches the apparatus of claim 16. Cosman teaches in Figure 2 and column 3, lines 37-47 that the first axis, the second axis, and

the third axis intersect at a common point. All axes, by nature, intersect at a common point.

In regards to claim 18, Cosman teaches the apparatus of claim 16. Cosman teaches in Figure 2 and column 3, lines 37-47 a component (206) extending from one end of the frame (203, 204, 205), the component (206) defining a pivot point, and wherein the first assembly (202) is operable to provide pitch movement of the body part about the pivot point, and wherein the second assembly is operable to provide yaw movement of the body part about the pivot point, and wherein the third assembly (203) is operable to provide roll movement of the body part about the pivot point.

In regards to claim 19, Cosman teaches in Figure 2 and column 3, lines 37-47 a frame (203, 204, 205), at least a portion of which is connected (via vertical element 202) to the couch (201), the frame (203, 204, 205) including a component (206) extending from the frame (203, 204, 205), a first assembly (202) coupled to the frame (203, 204, 205), a second assembly coupled to the frame (203, 204, 205), and a third assembly (203) coupled to (the assembly 203 is integral with and therefore, is coupled to the frame 203, 204, 205) the frame (203, 204, 205), the component (206) defining a pivot point remote from the first assembly (202), the second assembly, and the third assembly (203), the component (206) and the first assembly (202) configured to provide pitch movement, the component (206) and the second assembly configured to provide yaw movement, and the component (206) and the third assembly (203) configured to provide roll movement of the frame (203, 204, 205) relative to the couch (201) about the pivot point.



### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 4, 8, 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman (US 5,947,981).

In regards to claim 3, Cosman teaches the apparatus of claim 2. Cosman teaches in column 3, lines 48-51 that the projection (206) can have many variations. However, Cosman does not teach the projection being substantially spherical-shaped. It would have been obvious to one having ordinary skill in the art at the time of invention to provide the projection being substantially spherical-shaped, since it has been held that a change in the shape of a prior art device is a design consideration within the skill of the art. *In re Dailey*, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966).

In regards to claim 4, Cosman teaches the apparatus of claim 2. Cosman teaches in column 3, lines 48-51 that the projection (206) can have many variations. However, Cosman does not teach the projection being substantially semi-spherical-shaped. It would have been obvious to one having ordinary skill in the art at the time of invention to provide the projection being substantially semi-spherical-shaped, since it has been held that a change in the shape of a prior art device is a design consideration within the skill of the art. *In re Dailey*, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966).

In regards to claim 8, Cosman teaches the apparatus of claims 2 and 7. Cosman teaches in Figure 2 and column 3, lines 37-47 that the track is oriented in a substantially vertical plane, the first assembly providing a pitch movement of the frame (203, 204, 205) relative to the couch (201) as the carriage moves along the track in a substantially vertical direction. Cosman discloses the claimed invention except for the track being arcuately-shaped. It would have been obvious to one having ordinary skill in the art at the time of invention to provide the track being arcuately-shaped, since it has been held that a change in the shape of a prior art device is a design consideration within the skill of the art. *In re Dailey*, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966).

In regards to claim 10, Cosman teaches the apparatus of claims 2 and 9. Cosman teaches in Figure 2 and column 3, lines 37-47 that the track is oriented in a substantially horizontal plane, the second assembly providing yaw movement of the frame (203, 204, 205) relative to the couch (201) as the moves along the track in a substantially horizontal direction. Cosman discloses the claimed invention except for the track being arcuately-shaped. It would have been obvious to one having ordinary



skill in the art at the time of invention to provide the track being arcuately-shaped, since it has been held that a change in the shape of a prior art device is a design consideration within the skill of the art. *In re Dailey*, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966).

In regards to claim 21, Cosman teaches the apparatus of claim 19. Cosman teaches in column 3, lines 48-51 that the projection (206) can have many variations. However, Cosman does not teach the projection being substantially spherical-shaped. It would have been obvious to one having ordinary skill in the art at the time of invention to provide the component being substantially spherical-shaped, since it has been held that a change in the shape of a prior art device is a design consideration within the skill of the art. *In re Dailey*, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966).

### ***Response to Arguments***

Applicant's arguments with respect to the rejection of claims 3, 4, 8, 10, 14 and 21 under 35 U.S.C. 112, first paragraph have been fully considered but they are not persuasive. Applicant's argues that the Figures provide support for the claimed "substantial" shape and direction of structures of the claimed device. In response, the examiner asserts that the Figures are not sufficient to provide support for such recitations. *Substantially* can be defined to mean "considerable in quantity," which is a relative term that cannot be sufficiently portrayed by drawings. Applicant failed to amend claims 3, 4, 8, 10, 14 and 21 in order to overcome the previous rejection of

claims 3, 4, 8, 10, 14 and 21 under 35 U.S.C. 112, first paragraph. The rejection has therefore, been maintained.

Applicant's arguments filed 7/25/11 have been fully considered but they are not persuasive. In response to Applicant's argument that the peg attached to the vertical arm (202) is not part of the vertical arm (202), the examiner respectfully disagrees and asserts that because the peg is attached to the vertical arm (202), it can be reasonably considered to be part of the vertical arm (202).

Applicant also argues that the frame (203, 204, 205) of Cosman does not move relative to the couch about the dental tray (206) when the horizontal and/or vertical arms are moved. However, the examiner asserts that the frame (204, 205, 206) of Cosman is **capable of** moving relative to the couch about the dental tray (206) when the horizontal and/or vertical arms are moved, providing the dental tray (206) is held stationary, and therefore creating a pivot point.

In response to Applicant's argument that the examiner has not indicated what structure in Cosman correlates to the claimed "second assembly" of claims 16 and 19, the examiner asserts that the structure of Cosman correlating to the claimed "second assembly" has been clearly labeled on the annotated copy of Figure 2 of Cosman included in the rejection of claim 16 above.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICTORIA J. HICKS whose telephone number is (571)270-7033. The examiner can normally be reached on Monday through Thursday, 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. J. H./  
Examiner, Art Unit 3772  
10/12/11

/Patricia Bianco/  
Supervisory Patent Examiner, Art Unit 3772